UNITED STATES NAVAL OBSERVATORY

CIRCULAR NO. 74

U. S. Naval Observatory, Washington 25, D. C. April 17, 1957

POSITIONS, AREAS, AND COUNTS OF SUNSPOTS

OCTOBER, 1956

By Winifred Sawtell Cameron

These results are based upon measurements made at the Naval Observatory on plates secured either there or at the Mt. Wilson Observatory. The symbols used for the entries in the successive columns are as follows:

U.T., the epoch of observation in Universal Time.
No., the identifying number of the group assigned by Mt. Wilson.
Δl, the heliographic difference in longitude from the central meridian, measured positive to the west.
φ, the heliographic latitude, measured positive to the north.
ρ, the heliocentric angular distance from the line joining the centers of the Earth and Sun.
A, the true area of the umbra plus penumbra, expressed in millionths of the visible hemisphere.
s, the number of spots.

An asterisk means that no Mt. Wilson number was assigned. Plates secured at the Naval Observatory are indicated by N, and those at Mt. Wilson by M. The plate quality, which follows, is indicated by:

1, Poor; 2, Fair; 3, Good; 4, Very Good; 5, Excellent.

The following five quantities are listed successively at the end of each day, and give for that day:

1. The total number of groups, g.
2. The longitude of the central meridian, L_0.
3. The latitude of the center of the disc, B_0.
4. The total value of A.
5. The total value of s.

The mean daily area and the mean relative sunspot number, $r=10g+s$ are given at the end of the month.

These results are a continuation of those published in the *Monthly Weather Review* from February 1, 1927 to December 31, 1947.

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
1,575	11878	−76	+18	74	73	2
N–3	11878	−75	+17	73	48	1
	11878	−75	+20	73	24	1
	11878	−69	+20	68	24	2
	11874	−70	−23	74	24	1
	11874	−66	−24	71	16	1
	(*)	−59	+31	61	16	1
	11877	−50	−29	60	24	1
	11876	−10	+17	15	6	1
	11861	+ 1	+34	27	12	1
	11860	+ 2	+22	15	12	1
	11860	+ 3	+21	14	109	2
	11860	+ 5	+21	14	339	2
	11858	+19	−28	41	73	3
	11858	+22	−28	41	73	1
	11858	+23	−29	43	85	1
	11858	+25	−28	42	218	2
	11858	+26	−30	45	109	2
	11858	+27	−28	44	242	1
	11855	+33	−28	47	388	1
	11875	+34	+14	35	24	1
	11875	+36	+15	36	36	3
	11854	+38	−14	44	6	1
	11854	+40	−15	46	6	1
	11854	+43	−14	47	36	1
	11872	+47	+16	47	145	1
	11872	+48	+19	49	32	3
	11872	+52	+17	52	48	3
	11872	+55	+17	55	145	4
	11868	+50	+48	60	24	1
	11868	+51	+47	60	36	1
	11868	+53	+46	60	170	3
	11868	+56	+48	63	16	3
	11868	+58	+45	63	291	2
	11871	+62	−19	66	12	1
	11846	+62	+21	62	12	1
	11846	+65	+22	64	97	1
	(15)	(60)	(+7)		3051	59
2,569	11878	−62	+18	62	109	3
N–2	11878	−61	+19	61	48	1
	11878	−60	+20	61	32	1
	11878	−58	+20	58	48	2
	11878	−55	+18	55	24	2
	11878	−53	+19	53	73	3
	11874	−60	−22	66	32	1
	11877	−34	−26	46	61	2
	11877	−32	−25	45	36	1
	11876	+ 3	+16	10	16	1
	11876	+ 5	+16	11	73	1
	11876	+ 5	+15	10	24	1
	11860	+14	+21	19	48	1
	11860	+15	+20	20	73	2
	11860	+16	+20	21	267	2
	11858	+33	−28	47	170	1
	11858	+34	−29	49	48	1
	11858	+36	−28	50	48	1
	11858	+39	−28	52	485	3
	11855	+45	−27	55	388	1
	11875	+47	+14	47	73	3
	11875	+50	+14	50	73	1
	11854	+56	−14	60	61	1
	11872	+60	+16	60	145	1
	11872	+65	+21	64	73	1
	11872	+67	+17	66	291	2
	11868	+62	+47	67	194	2
	11868	+70	+45	72	291	1
	11846	+78	+23	77	73	1
	(12)	(47)	(+7)		3377	44
3,577	11883	−76	−24	79	291	1
N–2	11881	−69	−16	72	291	4
	11878	−50	+23	52	12	1
	11878	−49	+18	49	85	1
	11878	−48	+21	49	12	1
	11878	−47	+19	48	97	2
	11878	−47	+17	47	61	1
	11878	−46	+21	47	48	2
	11878	−45	+19	45	121	3
	11878	−42	+18	43	158	3
	11878	−40	+20	42	24	1
	11878	−38	+19	40	36	2
	11878	−37	+18	38	194	5
	11874	−46	−22	54	194	2
	11874	−45	−24	54	24	1
	11874	−42	−24	51	24	2
	11877	−21	−27	40	61	2
	11877	−17	−25	36	48	2
	11876	+16	+16	18	32	1
	11876	+18	+16	21	24	3
	11882	+23	+18	25	16	1
	11882	+23	+16	24	32	1
	11882	+24	+16	25	32	2
	11882	+26	+16	27	61	1
	11860	+26	+21	29	85	2
	11860	+27	+20	30	48	1
	11860	+31	+21	33	339	1
	11858	+45	−28	56	16	1
	11858	+46	−27	56	145	1
	11858	+46	−29	58	48	1
	11858	+48	−28	58	24	1
	11858	+54	−29	63	630	2
	11855	+59	−29	67	388	1
	11875	+60	+13	60	32	1
	11875	+64	+14	64	48	1
	11875	+65	+14	64	97	2
	11854	+70	−14	73	48	1
	11872	+74	+16	73	73	1

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11872	+75	+18	74	48	1
	11872	+80	+16	79	194	2
	11868	+74	+46	75	145	1
	11868	+80	+45	78	242	2
	(14)	(34)	(+7)		4628	68
5.551	11884	−64	+26	65	97	2
N−3	11883	−57	−26	65	121	1
	11883	−49	−25	59	315	1
	11881	−46	−15	51	16	1
	11881	−45	−16	51	73	1
	11881	−45	−15	50	16	1
	11881	−44	−15	49	24	2
	11881	−41	−15	46	97	2
	11881	−39	−16	46	194	2
	11886	−37	+23	41	6	1
	11886	−36	+22	39	32	1
	11885	−29	−22	41	16	1
	11885	−26	−23	38	16	2
	11885	−25	−21	36	16	1
	11878	−24	+22	28	145	3
	11878	−23	+21	26	32	2
	11878	−23	+18	26	109	4
	11878	−21	+19	24	121	4
	11878	−18	+17	22	12	1
	11878	−17	+19	23	170	4
	11878	−17	+17	21	121	3
	11878	−12	+19	17	727	6
	11878	−12	+22	19	12	1
	11878	−11	+22	18	12	1
	11874	−18	−22	34	121	3
	11877	+11	−25	34	48	1
	11876	+43	+16	44	12	1
	11876	+45	+16	46	12	2
	11860	+54	+19	55	16	1
	11860	+56	+20	57	267	1
	11882	+55	+16	56	12	1
	11858	+75	−27	79	97	1
	11858	+85	−29	88	388	1
	11858	+88	−28	89	145	1
	(12)	(8)	(+6)		3618	61
6.620	11887	−86	+19	86	582	1
M−2	11884	−50	+25	53	133	2
	11883	−43	−27	55	12	3
	11883	−37	−27	50	12	2
	11883	−36	−29	51	61	1
	11883	−35	−25	47	48	2
	11883	−35	−27	49	170	1
	11881	−30	−16	38	73	4
	11881	−29	−17	37	12	2
	11881	−26	−16	34	16	7
	11881	−24	−16	33	194	4

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11886	−22	+22	26	16	1
	11885	−13	−22	30	48	4
	11885	−12	−21	29	12	1
	11885	−11	−23	31	12	3
	11885	− 8	−21	28	12	3
	11878	−12	+25	23	6	2
	11878	−10	+22	18	145	9
	11878	− 7	+21	16	16	6
	11878	− 6	+18	14	194	13
	11878	− 6	+21	16	24	4
	11878	− 4	+19	15	121	4
	11878	− 3	+17	13	73	10
	11878	− 1	+21	14	12	1
	11878	+ 3	+17	13	145	7
	11878	+ 3	+21	15	485	7
	11878	+ 4	+23	17	12	3
	11874	− 3	−22	28	73	4
	11874	+ 4	−23	29	12	2
	11867	+35	+36	44	12	1
	11860	+70	+24	70	291	3
	(10)	(354)	(+6)		3034	117
7.589	11887	−71	+21	71	485	2
N−3	11884	−37	+26	41	218	4
	11883	−31	−26	45	24	2
	11883	−24	−26	40	194	3
	11881	−16	−16	27	36	2
	11881	−14	−15	25	32	1
	11881	−12	−15	24	194	1
	11886	−10	+22	18	12	1
	11885	− 3	−22	28	97	2
	11885	− 1	−22	28	24	1
	11885	+ 1	−20	26	32	1
	11885	+ 3	−20	26	32	2
	11878	+ 1	+25	19	36	2
	11878	+ 2	+21	15	48	1
	11878	+ 3	+22	16	121	2
	11878	+ 4	+23	17	24	1
	11878	+ 4	+18	14	48	3
	11878	+ 5	+22	16	48	3
	11878	+ 5	+18	14	61	5
	11878	+ 6	+18	14	194	3
	11878	+ 7	+19	16	61	1
	11878	+ 9	+17	15	194	2
	11878	+10	+23	19	12	1
	11878	+14	+18	19	12	1
	11878	+15	+20	20	388	5
	11878	+15	+17	19	145	4
	11874	+ 8	−21	28	61	3
	11860	+85	+22	85	194	1
	(9)	(341)	(+6)		3027	60
8.578	11890	−82	−23	86	242	1

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
N–2	11887	–59	+21	61	533	1
	11884	–26	+26	32	194	2
	11883	–10	–25	34	97	1
	11883	– 9	–26	34	85	1
	11881	– 5	–15	22	48	1
	11881	– 4	–16	23	61	1
	11881	– 3	–15	21	48	2
	11881	– 2	–14	21	24	1
	11881	+ 2	–15	22	242	1
	11885	+ 9	–22	29	97	1
	11885	+11	–21	28	121	2
	11885	+12	–23	31	24	3
	11885	+15	–20	30	145	3
	11885	+16	–20	31	73	2
	11885	+17	–20	32	48	2
	11885	+21	–21	34	32	1
	11878	+15	+20	20	36	1
	11878	+16	+22	22	145	3
	11878	+16	+18	20	36	2
	11878	+17	+17	21	48	1
	11878	+19	+19	24	242	2
	11878	+20	+21	25	32	1
	11878	+22	+22	26	48	1
	11878	+22	+18	25	121	1
	11878	+24	+18	27	194	2
	11878	+25	+22	29	61	1
	11878	+25	+21	28	61	1
	11878	+27	+20	31	436	1
	11878	+28	+17	30	61	2
	11878	+29	+16	31	73	2
	11874	+23	–21	35	48	1
	11888	+49	–16	55	16	2
	(9)	(328)	(+6)		3772	50
9.552	11890	–67	–23	73	6	1
N–3	11890	–65	–23	71	315	1
	11887	–46	+22	48	509	2
	11884	–16	+25	24	12	1
	11884	–15	+25	24	6	1
	11884	–15	+27	26	6	1
	11884	–14	+26	24	85	3
	11883	+ 2	–24	31	61	1
	11883	+ 3	–25	32	61	1
	11881	+ 7	–15	23	6	1
	11881	+ 8	–16	24	12	1
	11881	+10	–15	24	12	1
	11881	+14	–14	25	242	1
	11881	+16	–13	25	16	1
	11881	+19	–13	26	48	2
	11885	+23	–22	36	291	3
	11885	+24	–23	38	73	7
	11885	+25	–21	36	32	3
	11885	+27	–21	38	48	4
	11885	+29	–19	39	242	6
	11885	+31	–19	40	170	5
	11885	+34	–20	43	48	1
	11878	+28	+22	32	61	2
	11878	+29	+21	33	48	1
	11878	+29	+23	34	12	1
	11878	+30	+18	32	24	2
	11878	+30	+24	35	73	4
	11878	+31	+22	34	32	2
	11878	+31	+21	34	48	2
	11878	+32	+19	34	170	3
	11878	+32	+22	35	48	1
	11878	+33	+18	35	48	2
	11878	+34	+19	36	73	1
	11878	+35	+20	37	73	4
	11878	+36	+18	37	170	5
	11878	+37	+21	40	73	1
	11878	+40	+21	42	436	2
	11878	+40	+17	42	24	1
	11878	+41	+17	43	16	1
	11878	+43	+17	44	32	1
	11874	+35	–20	44	36	1
	(8)	(315)	(+6)		3798	85
10.554	11890	–54	–23	62	16	1
N–2	11890	–52	–23	60	339	1
	11887	–36	+20	38	24	1
	11887	–34	+21	36	533	1
	11884	– 4	+28	24	6	1
	11884	– 3	+28	23	6	1
	11884	– 2	+27	22	24	1
	11884	– 1	+26	20	61	2
	11883	+14	–26	35	24	1
	11883	+15	–25	34	121	2
	11891	+20	+29	31	32	1
	11893	+23	+21	26	48	2
	11893	+24	+22	28	24	1
	11893	+25	+23	29	48	1
	11881	+27	–14	35	291	2
	11881	+29	–14	36	73	1
	11881	+30	–12	35	36	1
	11881	+34	–14	40	73	1
	11885	+35	–22	45	194	2
	11885	+36	–23	46	24	1
	11885	+36	–21	45	170	2
	11885	+44	–19	52	16	1
	11885	+45	–20	53	485	3
	11885	+47	–19	55	48	2
	11878	+41	+21	43	121	2
	11878	+42	+23	45	73	2
	11878	+42	+19	44	32	1
	11878	+43	+24	46	24	3
	11878	+43	+18	44	48	1
	11878	+45	+19	46	218	4
	11878	+45	+22	47	109	1

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11878	+45	+24	48	73	1
	11878	+46	+21	47	73	1
	11878	+47	+19	49	194	1
	11878	+49	+20	51	194	2
	11878	+50	+18	51	267	1
	11878	+53	+21	54	509	2
	11878	+55	+17	56	16	2
	(9)	(302)	(+6)		4667	57
11.549	11890	−39	−23	49	339	1
N–2	11887	−24	+22	28	12	1
	11887	−20	+22	25	412	2
	11887	−19	+24	26	12	1
	11889	− 9	−28	36	48	2
	11889	− 8	−28	36	12	1
	11884	+ 6	+26	21	16	1
	11884	+13	+26	24	16	1
	11883	+28	−24	42	48	1
	11891	+28	+28	35	6	1
	11891	+29	+27	36	12	2
	11891	+32	+29	38	12	1
	11891	+32	+27	37	32	1
	11893	+36	+20	38	48	2
	11893	+36	+22	39	97	5
	11893	+36	+24	40	16	1
	11893	+38	+23	41	61	1
	11893	+41	+22	43	36	2
	11881	+36	−14	42	24	1
	11881	+40	−15	46	16	1
	11881	+41	−14	46	291	2
	11881	+43	−13	47	36	1
	11881	+46	−12	50	36	1
	11885	+47	−21	55	97	1
	11885	+48	−20	55	145	3
	11885	+58	−19	64	12	1
	11885	+61	−19	65	436	3
	11878	+54	+21	55	97	4
	11878	+54	+23	56	145	3
	11878	+57	+22	58	145	1
	11878	+59	+18	60	121	4
	11878	+59	+23	61	121	1
	11878	+59	+21	60	73	2
	11878	+61	+21	62	133	1
	11878	+62	+19	63	242	3
	11878	+64	+21	65	339	2
	11878	+65	+18	65	194	1
	11878	+66	+22	67	485	1
	(10)	(289)	(+6)		4423	64
12.549	11896	−41	−21	49	6	1
N–2	11895	−33	−28	47	61	1
	11895	−31	−26	45	12	1
	11895	−29	−27	45	36	1

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11894	−32	−20	41	6	1
	11894	−28	−20	39	61	1
	11894	−25	−19	36	73	7
	11890	−26	−24	39	291	1
	11887	−16	+21	22	73	1
	11887	− 6	+22	16	461	1
	11891	+43	+29	47	61	1
	11891	+46	+27	49	61	1
	11883	+41	−26	52	32	1
	11883	+42	−24	52	48	1
	11883	+43	−24	53	32	2
	11883	+44	−25	54	24	1
	11893	+49	+24	52	32	1
	11893	+50	+20	52	61	1
	11893	+52	+23	54	97	1
	11893	+54	+23	56	170	1
	11893	+55	+22	56	97	1
	11893	+56	+23	57	12	2
	11881	+54	−15	58	194	2
	11881	+55	−14	59	242	1
	11881	+56	−13	60	36	1
	11881	+62	−12	65	48	2
	11885	+63	−21	67	339	2
	11885	+78	−18	80	436	1
	11878	+66	+23	67	48	2
	11878	+70	+22	70	291	2
	11878	+71	+19	71	339	1
	11878	+74	+19	74	291	1
	11878	+76	+22	76	485	2
	(11)	(275)	(+6)		4556	47
13.637	11897	−64	−25	70	24	1
N–2	11897	−56	−24	64	97	2
	11896	−29	−22	41	16	2
	11896	−27	−21	38	24	2
	11895	−21	−28	40	12	1
	11895	−20	−29	41	61	1
	11895	−15	−26	36	48	1
	11894	−14	−20	29	97	1
	11894	− 9	−18	26	61	3
	11890	−13	−24	34	315	2
	11887	− 1	+21	15	48	1
	11887	+ 9	+22	18	485	1
	11883	+55	−26	64	218	2
	11883	+57	−24	64	48	1
	11883	+61	−25	68	194	2
	11893	+64	+23	65	24	2
	11893	+65	+21	65	121	2
	11893	+65	+18	65	32	1
	11893	+66	+19	66	145	2
	11893	+69	+21	69	97	1
	11893	+71	+22	71	194	2
	11881	+69	−14	73	339	1

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11881	+74	−13	76	48	1
	(9)	(261)	(+6)		2748	35
14.589	11897	−51	−25	60	24	1
N−1	11897	−44	−24	53	97	1
	11896	−16	−22	33	48	1
	11896	−14	−21	30	61	1
	11895	− 7	−28	35	48	1
	11895	− 1	−26	33	36	1
	11898	− 6	−20	26	61	1
	11898	− 4	−19	26	48	1
	11894	− 1	−19	26	73	1
	11890	+ 1	−23	29	291	1
	11887	+21	+22	25	436	1
	11883	+67	−25	72	339	1
	11883	+75	−24	79	194	1
	11893	+85	+23	84	194	1
	11881	+85	−15	86	145	1
	11881	+85	−14	86	145	1
	(10)	(249)	(+6)		2240	16
15.578	11903	−82	+24	82	242	1
N−1	11903	−80	+26	80	194	1
	11897	−31	−23	43	121	1
	11896	+ 1	−20	26	73	1
	11898	+ 6	−19	26	73	1
	11898	+ 8	−19	27	73	2
	11898	+10	−18	26	32	2
	11894	+12	−19	28	73	2
	11895	+12	−25	34	61	1
	11890	+13	−23	32	267	2
	11901	+32	−11	36	32	1
	11901	+33	−12	37	32	1
	11887	+33	+22	36	461	1
	11883	+80	−25	85	339	1
	(10)	(236)	(+6)		2073	18
16.565	11903	−66	+23	66	109	1
N−2	11906	−35	−26	48	24	1
	11897	−17	−24	35	97	1
	11905	−10	+17	15	24	2
	11905	− 7	+16	13	36	2
	11896	+14	−20	29	16	3
	11890	+19	−23	35	73	2
	11890	+20	−23	35	36	2
	11890	+21	−23	35	24	1
	11890	+26	−23	39	242	1
	11898	+21	−18	32	48	2
	11898	+23	−18	34	36	1
	11898	+24	−19	36	36	1
	11898	+25	−21	36	73	1
	11895	+26	−26	41	16	1
	11887	+46	+22	48	533	1
	11901	+47	−12	52	73	1
	11904	+58	+28	61	32	1
	(11)	(222)	(+6)		1528	25
17.636	11903	−53	+23	55	109	1
N−1	11897	− 4	−24	31	121	1
	11905	+ 7	+18	15	48	1
	11905	+ 8	+17	15	48	1
	11905	+ 9	+16	15	36	1
	11890	+32	−23	**44**	48	1
	11890	+36	−23	**46**	48	1
	11890	+39	−23	**49**	218	1
	11898	+33	−21	43	61	1
	11898	+33	−19	42	48	1
	11898	+36	−18	44	73	1
	11898	+38	−21	46	97	2
	11887	+61	+21	62	436	1
	11901	+63	−13	66	73	3
	(7)	(208)	(+6)		1464	17
18.708	11910	−83	+19	83	36	1
N−1	11910	−80	+18	80	291	1
	11903	−38	+23	41	85	1
	11909	+ 4	−10	16	24	1
	11909	+ 5	− 8	15	48	2
	11897	+10	−24	33	36	1
	11905	+25	+17	27	32	1
	11898	+46	−21	54	24	1
	11898	+52	−19	59	48	1
	11890	+55	−23	62	218	1
	11887	+77	+21	77	485	1
	(8)	(194)	(+6)		1327	12
19.815	11910	−63	+18	64	242	2
N−1	11911	−63	+15	63	121	1
	11908	−57	+17	58	73	1
	11907	−50	−46	66	194	1
	11907	−46	−46	64	97	1
	11903	−24	+23	29	73	1
	11909	+17	−11	24	170	4
	11909	+19	−12	26	61	1
	11909	+22	−12	27	242	2
	11905	+35	+16	36	73	1
	11905	+39	+15	41	48	1
	11890	+61	−24	65	61	1
	11890	+69	−25	73	485	1
	11898	+66	−22	69	48	1
	11898	+67	−21	70	121	2
	(9)	(180)	(+5)		2109	21

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
20.619	11914	−72	+33	74	6	2
M–5	11914	−72	+34	75	12	3
	11914	−70	+32	72	36	3
	11913	−59	−16	63	6	2
	11911	−55	+14	56	6	2
	11911	−54	+14	55	16	2
	11911	−54	+16	55	73	10
	11911	−53	+15	54	61	2
	11911	−53	+13	54	12	3
	11910	−55	+17	56	6	2
	11910	−54	+17	55	97	8
	11910	−53	+18	54	121	2
	11910	−53	+16	54	6	1
	11910	−50	+17	53	12	1
	11907	−52	−51	69	24	3
	11907	−50	−50	68	24	4
	11907	−47	−49	67	16	1
	11907	−41	−47	63	97	4
	11907	−39	−46	61	6	2
	11907	−38	−45	59	6	1
	11907	−37	−45	59	24	3
	11907	−36	−46	59	24	5
	11907	−34	−45	58	16	3
	11908	−47	+18	49	48	6
	11908	−47	+17	49	48	8
	11908	−46	+15	46	12	4
	11908	−46	+18	47	12	3
	11908	−45	+16	46	12	2
	11908	−44	+15	45	16	3
	11908	−44	+17	45	16	5
	11908	−43	+16	44	12	5
	11908	−40	+18	42	6	5
	11903	−17	+23	25	6	1
	11903	−14	+23	24	6	1
	11903	−13	+24	24	12	1
	11909	+27	− 8	31	36	5
	11909	+27	−10	32	36	10
	11909	+29	−11	34	48	13
	11909	+29	− 6	32	6	1
	11909	+31	− 9	34	32	6
	11909	+33	− 9	36	6	1
	11909	+34	−11	37	145	10
	11905	+44	+17	45	36	5
	11905	+45	+18	46	48	10
	11905	+47	+16	49	32	7
	11905	+48	+17	50	16	2
	11905	+49	+16	51	16	3
	11905	+50	+16	52	12	2
	11905	+51	+15	52	6	2
	11890	+71	−25	75	12	1
	11890	+71	−23	74	73	6
	11890	+74	−25	77	32	1
	11890	+78	−22	80	48	3
	11890	+80	−23	82	291	1
	11898	+75	−20	76	24	3
	11898	+78	−19	79	73	3
	(11)	(169)	(+5)		1941	208
21.751	11919	−80	−26	82	145	1
M–2	11918	−74	−29	77	242	1
	11917	−68	+12	67	12	1
	11914	−55	+33	58	32	1
	11916	−50	−22	55	24	1
	11913	−46	−16	50	16	1
	11913	−42	−15	46	12	1
	11911	−40	+15	41	16	1
	11911	−39	+16	41	12	1
	11911	−37	+16	39	36	1
	11911	−36	+14	37	12	2
	11911	−36	+15	37	61	1
	11911	−36	+16	37	36	3
	11910	−39	+19	41	24	3
	11910	−38	+17	39	73	3
	11910	−36	+18	38	97	2
	11908	−32	+17	34	48	2
	11908	−32	+19	35	48	3
	11908	−31	+18	34	36	6
	11908	−28	+18	31	12	1
	11908	−28	+16	30	12	2
	11908	−27	+16	29	16	1
	11908	−26	+17	28	16	1
	11907	−26	−47	56	73	2
	11907	−25	−46	56	24	1
	11907	−20	−45	54	24	1
	11903	− 4	+25	21	12	1
	11903	− 1	+24	19	6	1
	11903	+ 2	+23	18	12	1
	11903	+ 2	+25	20	12	1
	11903	+ 3	+24	20	12	1
	11915	− 3	+16	12	12	1
	11915	0	+16	12	6	1
	11915	+ 1	+16	12	6	1
	11909	+42	− 9	45	61	3
	11909	+44	−10	46	48	4
	11909	+47	−10	50	6	3
	11909	+48	−10	51	109	9
	11909	+50	−12	53	145	2
	11905	+60	+17	61	218	4
	11905	+61	+16	61	48	2
	11905	+65	+16	65	158	3
	(14)	(154)	(+5)		2030	82
23.634	11924	−82	−18	84	436	1
N–3	11924	−79	−18	81	242	1
	11921	−80	−30	85	97	1
	11921	−72	−30	76	48	1
	11921	−69	−30	74	61	1
	11921	−67	−28	71	61	1

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11921	−65	−30	71	109	1
	11920	−77	+14	77	97	1
	11920	−69	+12	69	97	1
	11920	−67	+13	67	218	1
	11920	−66	+15	65	48	1
	11919	−58	−27	65	170	1
	11918	−51	−29	59	267	1
	11916	−30	−24	42	24	2
	11916	−24	−23	36	48	1
	11916	−23	−23	36	32	1
	11910	−14	+16	18	32	2
	11910	−14	+17	19	36	3
	11910	−13	+16	18	36	2
	11910	−12	+17	17	109	2
	11911	−13	+14	16	36	1
	11908	− 8	+19	17	24	2
	11908	− 7	+18	16	36	3
	11908	− 3	+16	12	12	1
	11908	− 1	+18	14	16	1
	11907	− 6	−47	53	61	3
	11907	− 3	−47	53	24	2
	11907	− 1	−46	53	12	1
	11907	+ 2	−46	53	24	4
	11907	+ 6	−44	49	12	1
	11922	+58	+35	61	32	2
	11922	+62	+35	65	24	1
	11909	+76	−11	77	36	1
	11909	+79	−11	79	145	1
	(12)	(129)	(+5)		2762	50
24,705	11924	−66	−17	69	339	1
M–1	11924	−61	−16	64	291	1
	11920	−62	+15	62	16	1
	11920	−55	+14	55	61	1
	11920	−55	+15	55	48	1
	11920	−52	+14	53	170	1
	11920	−51	+16	53	85	2
	11921	−62	−30	68	24	1
	11921	−61	−29	66	48	1
	11921	−58	−30	65	36	1
	11921	−56	−29	63	97	1
	11921	−54	−27	61	48	1
	11921	−54	−28	61	73	1
	11921	−53	−29	60	109	1
	11921	−52	−28	59	85	1
	11921	−51	−29	59	73	1
	11919	−45	−27	54	97	1
	11923	−45	−24	52	48	2
	11923	−42	−24	49	12	1
	11923	−41	−24	49	12	1
	11918	−38	−29	51	279	1
	11916	−14	−19	28	12	1
	11916	− 9	−21	26	24	1
	11916	− 7	−22	27	73	1

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11910	0	+18	14	16	1
	11910	+ 3	+17	13	48	2
	11911	+ 2	+14	9	36	1
	11911	+ 3	+16	12	36	1
	11911	+ 5	+14	10	36	1
	11908	+ 6	+20	16	48	1
	11908	+ 7	+19	16	24	1
	11907	+12	−47	54	24	1
	11907	+14	−45	52	16	1
	11907	+15	−46	53	16	1
	11907	+18	−45	53	24	1
	11907	+21	−44	53	32	1
	11925	+58	+30	61	73	1
	11925	+63	+29	64	73	1
	11922	+70	+36	73	48	1
	11922	+75	+35	77	97	1
	(13)	(115)	(+5)		2807	43
25,551	11924	−56	−18	60	436	2
N–3	11924	−52	−17	55	339	1
	11926	−52	−28	59	48	1
	11926	−49	−30	58	61	1
	11921	−46	−30	56	16	1
	11921	−43	−28	53	48	2
	11921	−42	−29	53	32	3
	11921	−40	−29	52	85	1
	11920	−44	+13	45	36	2
	11920	−44	+14	45	24	1
	11920	−41	+15	42	32	2
	11920	−41	+16	42	24	1
	11920	−41	+13	42	194	1
	11920	−40	+15	42	36	1
	11923	−35	−26	46	12	1
	11923	−34	−24	44	32	2
	11923	−29	−24	41	32	1
	11919	−34	−28	46	121	1
	11918	−26	−29	43	242	1
	11916	− 3	−23	28	36	1
	11916	+ 3	−23	28	97	2
	11911	+11	+15	15	16	1
	11911	+12	+14	15	36	1
	11910	+13	+17	18	61	1
	11908	+16	+20	22	16	1
	11907	+24	−45	54	48	1
	11907	+27	−45	55	24	1
	11907	+29	−44	55	48	1
	11907	+34	−43	56	32	1
	11925	+74	+29	75	194	1
	(13)	(104)	(+5)		2458	38
26,615	11927	−73	−24	76	12	2
M–4	11927	−70	−25	74	12	1
	11924	−44	−16	49	6	3

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11924	−43	−15	46	6	1
	11924	−42	−19	48	12	2
	11924	−41	−17	46	364	4
	11924	−39	−16	45	16	2
	11924	−37	−16	43	291	3
	11924	−35	−16	41	6	1
	11926	−43	−28	53	16	4
	11926	−40	−27	51	6	1
	11921	−36	−29	49	36	1
	11921	−36	−30	49	73	4
	11921	−35	−31	49	24	3
	11921	−32	−29	46	32	5
	11921	−28	−29	44	48	7
	11921	−27	−28	42	32	12
	11921	−26	−29	43	32	2
	11920	−34	+16	35	12	3
	11920	−28	+16	31	6	4
	11920	−28	+14	31	16	3
	11920	−27	+14	29	24	6
	11920	−27	+15	30	12	4
	11920	−26	+14	28	109	2
	11920	−25	+16	27	6	5
	11920	−24	+16	26	24	3
	11919	−20	−27	37	73	2
	11923	−20	−24	35	6	4
	11923	−15	−23	31	12	2
	11918	−14	−29	36	170	1
	11916	+12	−22	29	12	1
	11916	+16	−23	32	32	7
	11911	+25	+15	26	12	10
	11911	+27	+15	30	16	1
	11910	+25	+19	28	12	5
	11910	+27	+18	30	16	3
	11908	+32	+20	35	6	1
	11908	+35	+16	36	6	1
	11907	+35	−47	60	12	2
	11907	+35	−46	59	6	1
	11907	+37	−45	59	24	4
	11907	+39	−45	60	6	1
	11907	+41	−45	60	6	1
	11907	+43	−44	61	24	1
	11907	+44	−45	62	24	2
	11907	+44	−44	62	16	3
	11925	+85	+31	85	48	1
	(14)	(90)	(+5)		1772	142
27,615	11930	−88	+23	88	388	1
M−3	11930	−85	+21	85	145	1
	11929	−75	+20	76	48	2
	11927	−64	−24	68	6	2
	11927	−63	−24	67	12	1
	11927	−61	−24	65	12	1
	11924	−28	−17	35	364	5
	11924	−27	−16	34	12	4
	11924	−25	−16	33	242	2
	11921	−25	−31	43	97	5
	11921	−25	−32	44	24	2
	11921	−24	−29	42	32	3
	11921	−24	−33	45	16	4
	11921	−23	−30	42	48	2
	11921	−21	−30	40	24	4
	11921	−19	−30	39	24	4
	11921	−18	−28	37	12	1
	11921	−16	−32	39	12	3
	11921	−16	−29	37	16	3
	11921	−16	−28	36	24	3
	11921	−15	−27	35	16	2
	11921	−15	−29	37	32	1
	11920	−16	+14	18	16	2
	11920	−15	+16	19	12	1
	11920	−14	+16	18	12	2
	11920	−14	+14	17	121	1
	11920	−14	+17	19	6	1
	11920	−11	+15	15	6	1
	11920	−10	+15	14	6	1
	11920	− 8	+18	16	12	2
	11919	−11	−28	34	6	2
	11919	− 7	−28	34	48	3
	11923	− 7	−25	31	12	3
	11918	− 2	−29	35	145	2
	11910	+37	+16	38	6	2
	11910	+41	+17	43	12	2
	11910	+44	+19	45	6	1
	11911	+39	+14	40	6	1
	11907	+47	−47	66	6	1
	11907	+48	−46	65	12	1
	11907	+51	−46	67	12	4
	11907	+55	−44	68	12	3
	11907	+56	−44	68	32	2
	11907	+57	−43	69	16	1
	11908	+49	+16	51	6	1
	11908	+50	+15	52	6	1
	(13)	(77)	(+5)		2140	97
28,600	11937	−85	−13	87	291	2
N−3	11931	−75	−18	77	121	1
	11931	−71	−17	74	194	1
	11936	−75	−23	77	48	2
	11936	−70	−23	74	24	1
	11930	−74	+20	75	194	1
	11930	−71	+20	72	776	1
	11930	−68	+19	69	73	2
	11930	−62	+19	63	16	1
	11934	−69	−31	75	48	1
	11927	−50	−25	56	32	2
	11924	−16	−19	29	436	4
	11924	−12	−17	25	339	1
	11921	−11	−31	36	218	7

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11921	−11	−29	35	48	2
	11921	− 7	−30	35	32	2
	11921	− 6	−30	35	16	1
	11921	− 5	−30	35	24	1
	11921	− 5	−28	34	12	1
	11921	− 3	−28	34	61	1
	11921	− 2	−29	35	36	1
	11920	− 3	+15	11	32	1
	11920	− 2	+15	11	16	2
	11920	− 1	+14	10	182	1
	11920	0	+16	12	32	2
	11919	+ 5	−28	34	61	2
	11918	+12	−29	36	230	2
	(11)	(64)	(+5)		3592	46
29.617	11937	−76	−12	77	145	2
M−2	11937	−71	−11	73	48	1
	11937	−71	−14	74	36	1
	11937	−67	−12	69	48	4
	11937	−65	−11	66	194	1
	11936	−72	−22	76	24	1
	11936	−66	−22	69	32	1
	11936	−62	−21	65	24	1
	11936	−60	−22	64	61	1
	11936	−58	−22	63	32	1
	11930	−63	+20	64	16	1
	11930	−61	+21	62	97	2
	11930	−59	+19	60	24	1
	11930	−58	+22	59	388	2
	11930	−56	+21	57	85	3
	11931	−60	−17	64	97	1
	11931	−58	−16	61	158	2
	11935	−57	−14	60	16	1
	11935	−55	−15	58	24	2
	11934	−54	−30	62	16	1
	11927	−36	−25	46	16	1
	11924	− 3	−18	24	315	3
	11924	− 2	−16	22	16	4
	11924	+ 1	−16	22	291	5
	11921	0	−29	34	12	1
	11921	+ 2	−28	34	24	2
	11921	+ 3	−30	35	218	7
	11921	+ 6	−30	35	24	3
	11921	+ 7	−30	35	12	1
	11921	+11	−28	35	16	2
	11921	+11	−29	36	16	1
	11920	+ 5	+15	12	12	1
	11920	+ 7	+15	13	6	3
	11920	+12	+16	16	6	3
	11920	+12	+13	15	6	2
	11920	+13	+14	16	121	2
	11919	+17	−28	36	48	1
	11918	+24	−29	42	145	1
	11933	+36	+25	40	16	2

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
	11932	+48	+15	51	16	1
	11932	+52	+15	54	6	1
	(14)	(50)	(+5)		2907	77
30.744	11937	−67	−14	70	48	1
M−1	11937	−62	−13	64	145	1
	11937	−59	−14	62	48	1
	11937	−58	−15	61	32	1
	11937	−57	−14	60	24	1
	11937	−56	−13	59	16	2
	11937	−55	−13	58	24	1
	11937	−53	−13	55	121	1
	11937	−52	−12	54	242	3
	11940	−65	+26	65	16	1
	11936	−47	−23	54	16	2
	11936	−46	−23	53	61	1
	11936	−44	−23	51	24	1
	11931	−46	−18	50	61	1
	11931	−45	−17	49	16	1
	11931	−45	−16	49	16	1
	11931	−44	−18	49	170	1
	11930	−46	+23	49	121	2
	11930	−46	+19	48	48	4
	11930	−45	+24	48	32	2
	11930	−44	+21	46	364	1
	11930	−43	+18	45	24	2
	11930	−41	+22	43	12	1
	11930	−40	+19	43	61	1
	11927	−21	−25	36	6	1
	11939	+11	+17	17	6	1
	11939	+13	+17	18	6	1
	11924	+12	−19	26	388	2
	11924	+15	−17	26	291	3
	11921	+16	−30	37	24	2
	11921	+17	−33	40	145	3
	11921	+18	−31	39	73	4
	11921	+19	−33	41	32	3
	11921	+21	−32	41	61	4
	11921	+23	−31	41	36	2
	11921	+24	−31	42	16	3
	11921	+24	−32	43	73	2
	11921	+26	−31	43	24	1
	11920	+23	+14	25	12	2
	11920	+26	+15	28	16	1
	11920	+26	+12	28	6	1
	11920	+27	+13	29	97	1
	11920	+29	+11	31	12	1
	11919	+34	−29	46	16	1
	11918	+39	−29	51	170	1
	11933	+49	+25	53	24	1
	11938	+60	−23	65	24	1
	11932	+63	+15	63	32	2
	(15)	(35)	(+4)		3332	78

OCTOBER

U.T.	No.	Δl	φ	ρ	A	s
		°	°	°		
31.758	11941	−65	−26	70	291	1
N−2	11937	−48	−14	52	24	2
	11937	−48	−12	51	121	1
	11937	−46	−13	49	36	2
	11937	−45	−13	48	16	1
	11937	−44	−14	47	16	1
	11937	−40	−12	44	61	3
	11937	−38	−13	42	73	1
	11937	−37	−11	41	315	1
	11930	−33	+24	38	61	2
	11930	−31	+24	36	24	1
	11930	−30	+20	34	97	2
	11930	−30	+22	35	436	1
	11930	−28	+19	33	73	2
	11930	−26	+20	30	48	2
	11931	−32	−17	38	32	3
	11931	−30	−17	37	109	2
	11936	−32	−22	39	32	1
	11936	−29	−21	37	24	1
	11924	+25	−19	34	388	3
	11924	+27	−21	36	48	1
	11924	+28	−17	35	218	2
	11924	+29	−16	36	145	1
	11921	+28	−31	44	32	2
	11921	+30	−29	44	109	2
	11921	+31	−32	46	97	3
	11921	+33	−30	46	48	1
	11921	+34	−30	46	32	1
	11921	+35	−31	47	242	4
	11921	+36	−31	48	145	2
	11921	+40	−28	51	48	1
	11920	+42	+13	43	182	1
	11919	+46	−29	55	24	1
	11918	+51	−29	59	194	1
	11932	+78	+14	78	97	1
	(11)	(22)	(+4)		3938	57

Mean for 29 days, $A = 2935$, $r = 172.9$

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